

WHAT IS CLAIMED IS:

1. A wireless communications system between a center and a vehicle for a software downloading via a wireless communications network, the wireless communications system comprising:

a center communications terminal provided in the center for downloading a software; and

an in-vehicle communications terminal provided in the vehicle for receiving the software downloaded from the center communications terminal,

wherein the in-vehicle communications terminal includes vehicle-stop assuming means for assuming whether the vehicle is not driven, and

wherein, when the vehicle-stop assuming means assumes that the vehicle is not driven, the in-vehicle communications terminal is permitted to start the software downloading from the center communications terminal.

2. The wireless communications system of Claim 1,

wherein the vehicle-stop assuming means assumes that the vehicle is not driven when an accessory switch of the vehicle is being turned off.

3. The wireless communications system of Claim 1,

wherein the vehicle-stop assuming means assumes that the vehicle is not driven when a parking brake of the vehicle is being turned on.

4. The wireless communications system of Claim 1,

wherein the vehicle-stop assuming means assumes that the vehicle is not driven when a door of the vehicle is opened, closed, and locked.

5. The wireless communications system of Claim 1,

wherein the in-vehicle communications terminal further includes wireless-environment start determining means for determining, prior to starting the software downloading, whether a wireless communications environment level between the in-vehicle communications terminal and the center communications terminal is equal to or more than a predetermined level, and

wherein, when the wireless-environment start determining means determines, prior to starting the software downloading, that the wireless communications environment level is equal to or more than the predetermined level, the in-vehicle communications terminal is permitted to start the software downloading from the center communications terminal.

6. The wireless communications system of Claim 1,

wherein a time of day for starting the software downloading and a downloading period for the software downloading are determined based on terminal identification information uniquely assigned to the in-vehicle communications terminal.

7. The wireless communications system of Claim 1,

wherein the in-vehicle communications terminal further includes importance level determining means for determining whether a software to be downloaded has an importance level equal to or higher than a predetermined level, and

wherein, when the importance level determining means determines

that the software to be downloaded has the importance level equal to or higher than the predetermined level, the in-vehicle communications terminal is permitted to start the software downloading from the center communications terminal in preference to other communications processes even when the vehicle-stop assuming means does not assume that the vehicle is not driven, and

wherein, when the importance level determining means determines that the software to be downloaded has the importance level lower than the predetermined level, the in-vehicle communications terminal is permitted to start the software downloading from the center communications terminal when the vehicle-stop assuming means assumes that the vehicle is not driven.

8. The wireless communications system of Claim 1,

wherein the center communications terminal notifies the in-vehicle communications terminal of start information by using notice information, and

wherein the start information relates to whether the in-vehicle communications terminal is permitted to start the software downloading from the center communications terminal.

9. The wireless communications system of Claim 1,

wherein the center communications terminal notifies the in-vehicle communications terminal of start information by using an electronic mail, and

wherein the start information relates to whether the in-vehicle communications terminal is permitted to start the software downloading from the center communications terminal.

10. The wireless communications system of Claim 1,
wherein, when a wireless communications environment level between the in-vehicle communications terminal and the center communications terminal becomes less than a predetermined level while the software downloading, the in-vehicle communications terminal stops the software downloading from the center communications terminal.

11. The wireless communications system of Claim 1,
wherein, when a downloading speed while the software downloading becomes less than a predetermined speed, the in-vehicle communications terminal stops the software downloading from the center communications terminal.

12. The wireless communications system of Claim 1,
wherein the in-vehicle communications terminal stops the software downloading from the center communications terminal when at least one of a first and second stop conditions is fulfilled, wherein the first condition is that a wireless communications environment level between the in-vehicle communications terminal and the center communications terminal becomes less than a predetermined level, wherein a second condition is that a downloading speed while the software downloading becomes less than a predetermined speed, and
wherein, after the in-vehicle communications terminal stops the software downloading since at least one of the two conditions is fulfilled, the in-vehicle communications terminal is permitted to resume the software downloading from the center communications terminal when the wireless communications environment level becomes equal to or more than the predetermined level.

13. The wireless communications system of Claim 1,
wherein, when an elapsed downloading period becomes equal to or more than a predetermined period, the in-vehicle communications terminal stops the software downloading from the center communications terminal.

14. The wireless communications system of Claims 1,
wherein, when an accessory switch of the vehicle is turned on while the software downloading, the in-vehicle communications terminal stops the software downloading from the center communications terminal.

15. The wireless communications system of Claim 1,
wherein the in-vehicle communications terminal stops the software downloading from the center communications terminal when at least one of a first and second stop conditions is fulfilled, wherein the first condition is that an elapsed downloading period becomes equal to or more than a predetermined period, wherein the second condition is that an accessory switch is turned on while the software downloading,

wherein, after the in-vehicle communications terminal stops the software downloading since at least one of the two conditions is fulfilled, the in-vehicle communications terminal is permitted to resume the software downloading from the center communications terminal when the accessory switch is turned off.

16. An in-vehicle communications terminal that is provided in a vehicle and used for a software downloading via a wireless communications

network from a center communications terminal provided in a center, the in-vehicle communications terminal comprising:

wireless means for communicating with the center communications terminal via the wireless communications network;

control means for causing the wireless means to execute the software downloading; and

vehicle-stop assuming means for assuming whether the vehicle is not driven,

wherein, when the vehicle-stop assuming means assumes that the vehicle is not driven, the control means is permitted to cause the wireless means to start the software downloading from the center communications terminal.

17. The in-vehicle communications terminal of Claim 16,

wherein the vehicle-stop assuming means assumes that the vehicle is not driven when an accessory switch of the vehicle is being turned off.

18. The in-vehicle communications terminal of Claim 16,

wherein the in-vehicle communications terminal determines a time of day for starting the software downloading and a downloading period for the software downloading, based on terminal identification information uniquely assigned to the in-vehicle communications terminal, and

wherein the in-vehicle communications terminal executes the software downloading from the center communications terminal based on the determined time of day for starting the software downloading and the determined downloading period for the software downloading.

19. The in-vehicle communications terminal of Claim 16, further comprising:

importance level determining means for determining whether a software to be downloaded has an importance level equal to or higher than a predetermined level, and

wherein, when the importance level determining means determines that the software to be downloaded has the importance level equal to or higher than the predetermined level, the control means is permitted to cause the wireless means to start the software downloading from the center communications terminal in preference to other communications processes even when the vehicle-stop assuming means does not assume that the vehicle is not driven, and

wherein, when the importance level determining means determines that the software to be downloaded has the importance level lower than the predetermined level, the control means is permitted to cause the wireless means to start the software downloading from the center communications terminal when the vehicle-stop assuming means assumes that the vehicle is not driven.

20. A center communications terminal provided in a center for executing a software downloading via a wireless communications network to an in-vehicle communications terminal provided in a vehicle, the center communications terminal comprising:

wireless means for communicating with the in-vehicle communications terminal via the wireless communications network; and

control means for causing the wireless means to execute the software

downloading,

wherein the control means determines a time of day for starting the software downloading and a downloading period for the software downloading based on identification information uniquely assigned to the in-vehicle communications terminal, and

wherein the control means causes the wireless means to execute the software downloading based on the determined time of day for the software downloading and the downloading period for the software downloading.